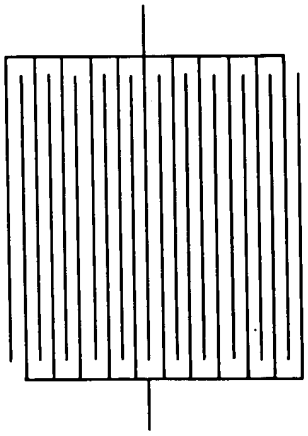
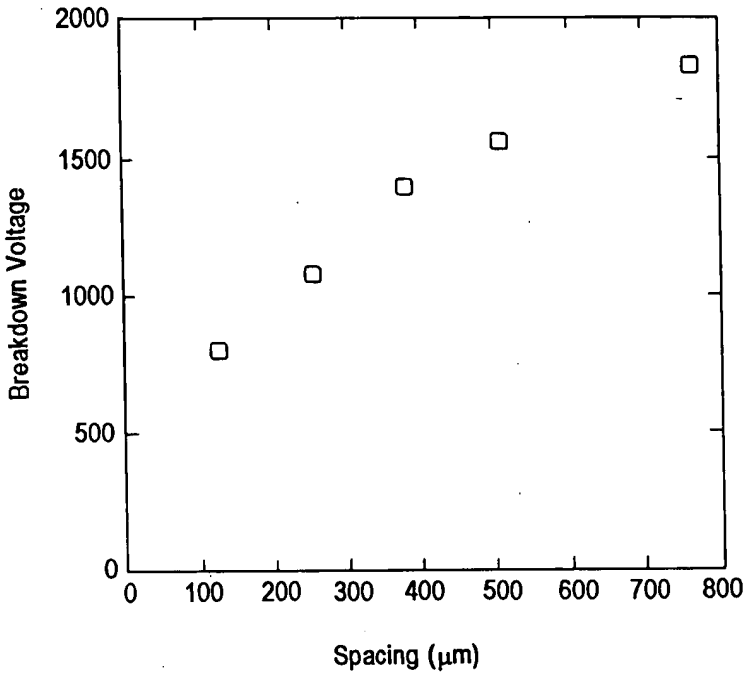


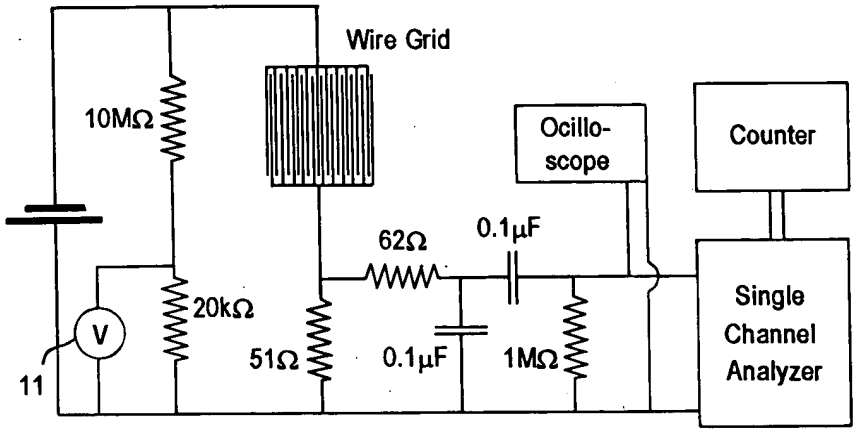
Schematic of T3 Circuit; Trace Width 254 μm, Spacing 381 Microns, Overall Area 1.2 x 1.2 cm (Not to Scale).

FIG. 1



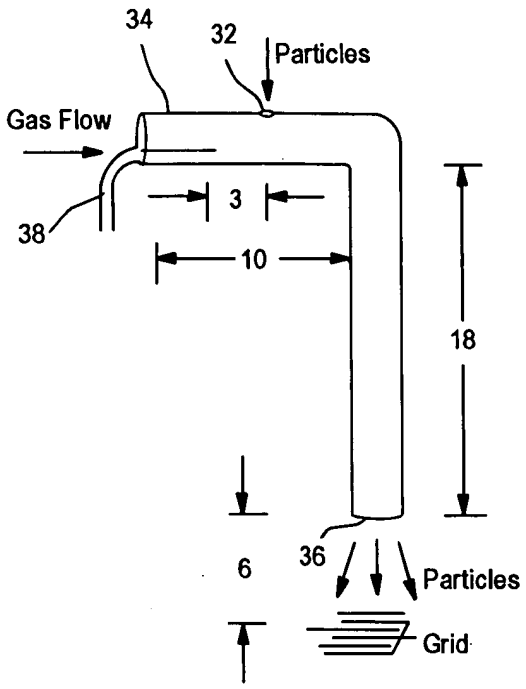
Plot of Breakdown Voltages of Circuit Board Without Particles Present.

FIG. 2



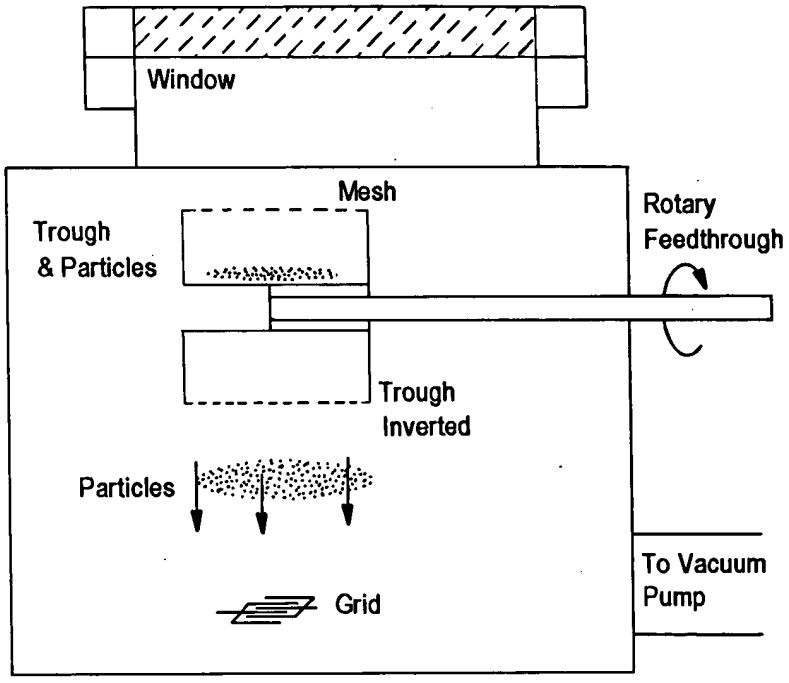
Circuit Diagram Including Power Supply, High Pass and Low Pass Filters, Oscilloscope Single Channel Analyzer and Counter.

FIG. 3



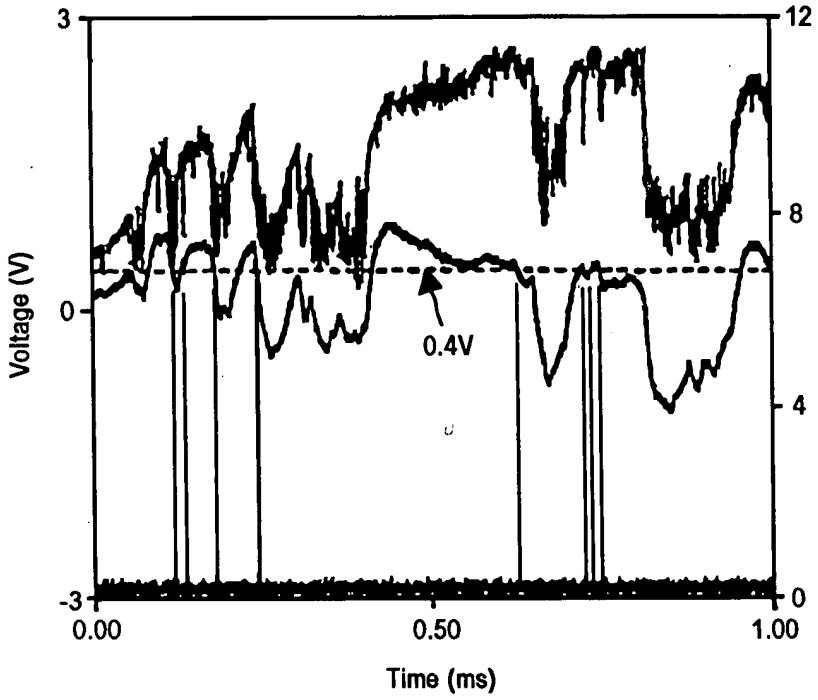
Particle Delivery System for Experiments in Air. The Dimensions are in cm.

FIG. 4



Particle Delivery System for Experiments in Vacuum.

FIG. 5



Typical Waveforms of the Signal Created by Approximately 0.3 mg of Impinging Particles on Grid T4 with a Bias Voltage of 50V in Air. The Uppermost Waveform is the Unfiltered Signal, the Waveform Directly Below it is the Signal after it Passed Through the Band Pass Filters (Y-Axis Scale on Left). The Lowermost Waveform is the Signal from the Signal Channel Analyzer (SCA) and Corresponding Y-Axis Scale is on the Right. Also Shown is a Dotted Line Indicating 0.4V. The SCA was Set to Trigger on the Falling Edges of Pulses at 0.4V.

FIG. 6